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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : Marchant, et al. Examiner : Roy R. Teller
Application No. : 10/823,218 Group Art : 1654
Filing Date : April 13, 2004 Docket No. : 26526-15
Confirmation No. : 4659
Title : **METHODS OF MAKING AND USING SURFACTANT
POLYMERS**

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Board of Patent Appeals and Interferences
United States Patent and Trademark Office
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APPEAL BRIEF

Sir/Madam:

The following Appeal Brief is submitted pursuant to the Notice of Appeal filed October 31, 2005 in the above-identified application. The Appeal Brief is filed within two months of the filing date of the Notice of Appeal and, therefore, is timely filed. This Appeal Brief is accompanied by the fee set forth in 37 CFR § 41.20(b)(2), as stated in the accompanying Fee Transmittal Form.

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I. REAL PARTY IN INTEREST

Nanomimetics, Inc., 2715 Fairmont Blvd., Cleveland Heights, Ohio 44106, is the assignee of the present application and the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Presently, all pending claims stand allowed. The question is which claims remain pending.

The present divisional application was filed with Claims 1-20. In a preliminary amendment filed with the application, Claims 1-8 and 13-15 were cancelled, as they were issued in the parent application, now U.S. Pat. No. 6,759,388. Thus, Claims 9-12 and 16-20 were believed pending in the present application.

The first substantive Office Action was a Notice of Allowance of Claims 9-20 and an Examiner's amendment. Because the Notice of Allowance allowed claims that had already issued, namely claims 13-15, the application was not properly in condition for allowance. Applicant timely filed an Amendment After Allowance under 37 C.F.R. § 1.312 identifying the error and again canceling claims 13-15. To date, Applicant has received no correspondence from the Office indicating entry of the amendment, cancellation of the previously issued claims, or an explanation why entry is denied. Applicant has made numerous telephone calls to the Examiner and his Supervisor to no avail.

Claims 9-12 and 6-20 are believed pending, in condition for allowance, and on appeal (see Section VIII of this document, Claims Appendix).

Claims 1-8 and 13-15 are believed canceled.

IV. STATUS OF AMENDMENTS

An Amendment After Allowance under 37 C.F.R. § 1.312 was mailed September 15, 2005. No indication as to the status of the Amendment has been received, nor according to the publicly available information at www.uspto.gov, has the amendment been acted upon.

V. SUMMARY OF CLAIMED SUBJECT MATTER

As the issues presented by this Appeal are procedural in nature, no summary of the claimed subject matter is believed pertinent. This is further evidenced by the fact that there is no disagreement over the condition of the claims – they are allowable.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

None.

VII. ARGUMENT

Inattention and neglect by the Office has required the Applicant here to needlessly incur expense and delay in connection with the captioned U.S. patent application.

Following the mailing date of the only official correspondence from the Office on this application – that is, the Notice of Allowance on July 29, 2005 – the Applicant had a non-extendable period of three months in which to pay the issue fee. However, because the application as allowed was defective at least in allowing claims that had already issued in a U.S. Patent, Applicant commenced to correct the error through the only procedural vehicle available, that is, Amendment After Allowance under 37 C.F.R. § 1.312. Within two months, Applicant filed such an Amendment After Allowance believed to permit the proper claims to issue, and correct a typographical error. The Office never sent an Advisory Action or otherwise officially acknowledged receipt of the Amendment. Examiner Teller did receive the Amendment and informally advised Applicant's attorney that the Amendment would be entered by voice-mail message. However, Examiner Teller never prepared or sent any subsequent official correspondence.

Facing the non-extendable deadline of October 29, 2005 with multiple messages from Applicant's attorney failing to elicit even a return call, Applicant filed a Notice of Appeal to maintain pendency of the application.

After filing the Notice of Appeal, through a series of phone conferences with Examiner Teller and at least once with his supervisor, Applicant informally learned for the first time that a sequence listing was required in the present application despite receipt of the Notice of Allowance. In an effort to advance the application without waiting for official correspondence requiring a sequence listing, Applicant prepared and filed a suitable listing on December 9, 2005.

To date no response has been received regarding the sequence listing - either a written requirement for such a listing, or an acknowledgment of the receipt and sufficiency of the filed listing.

Continued non-responsiveness by the Office and another non-extendable deadline for filing an Appeal Brief has caused the further unnecessary delay and expense associated with preparation and filing of this Brief.

Applicant believes that the application is in condition for allowance and urges action on the outstanding Amendment After Allowance and Sequence list filing.

Applicant further respectfully requests that a copy of this Appeal Brief be forwarded to the Commissioner for consideration as a Petition for refund of the \$500 in fees associated with this appeal. The Commissioner is hereby authorized to charge any additional fees, or credit any refund or overpayment to Deposit Account No. 02-2051, referencing Attorney Docket No. 26526-15.

Dated: 3 Jan 2006

Respectfully submitted,

By: 

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VIII. CLAIMS APPENDIX

Below is a listing of Claims following the Amendment After Allowance under 37 C.F.R. § 1.312 mailed September 15, 2005.

1-8 (canceled)

9. A method of reducing the thrombogenicity of a hydrophobic surface of a substrate comprising:

a) providing a comblike surfactant polymer comprising:

i) a polymeric backbone of repeating monomeric units,

ii) a plurality of hydrophobic side chains comprising from about 2 to about 18 methylene groups, said plurality of hydrophobic side chains being linked to said polymeric backbone by ester linkages, secondary amine linkages, amide linkages; or combinations thereof and

iii) a plurality of hydrophilic side chains linked to said polymeric backbone by ester linkages, secondary amine linkages, amide linkages, or combinations thereof; said hydrophilic side chains selected from the group consisting of: neutral oligosaccharide side chains having a weight average molecular weight of less than 7000; charged oligosaccharide side chains having a weight average molecular weight of less than 10,000, polyethylene oxide; and combinations thereof,

b) attaching the comblike surfactant polymer to the hydrophobic substrate to provide a substrate with reduced thrombogenicity.

10. The method of claim 9 wherein said surfactant polymer is attached to said surface by immersing said surface into an aqueous solution containing said surfactant polymer.

11. A method of promoting attachment of endothelial cells to the surface of a hydrophobic surface comprising:

a) providing a comblike surfactant polymer comprising:

i) a polymeric backbone of repeating monomeric units,

ii) a plurality of hydrophobic side chains comprising from about 2 to about 18 methylene groups, said plurality of hydrophobic side chains being linked to said polymeric backbone by secondary amine linkages, amide linkages; or combinations thereof and

iii) a plurality of hydrophilic side chains linked to said polymeric backbone by secondary amine linkages said hydrophilic side chains comprising an oligopeptide of from about 3 to 30 amino acid residues and having an amino acid sequence which interacts with protein receptors on the surface of endothelial cells

b) attaching the comblike surfactant polymer to the hydrophobic substrate.

12. The method of claim 11 wherein said oligopeptide side chains comprise an amino acid sequence selected from the group consisting of: SEQ ID NO: 1 (RGD), SEQ ID NO: 4 (RRAR), SEQ ID NO: 5 (RRRKRR), SEQ ID NO: 6 (PPRRARVT), and SEQ ID NO: 7 (PPREVVPRPRP).

13-15 (canceled)

16: A method of preparing a surfactant polymer for changing the surface properties of a biomaterial comprising the following steps:

a) providing a polymer comprising a plurality of side groups selected from the group consisting of OH groups, COOH groups and NH₂ groups;

b) reacting said polymer with

i) an alkanoyl or an alkanal having an end for reacting with the side groups of said polymer; and

ii) a hydrophilic compound selected from the group consisting of neutral oligosaccharide chains having an end for reacting with the side groups of said polymer, charged oligosaccharide chains having an end for reacting with the side groups of said polymer, oligopeptides having an end for reacting with the side groups of said polymer, and combinations thereof;

wherein said alkanal and said alkanoyl comprise from 2 to 18 methylene groups;

wherein said neutral oligosaccharide chains have a weight average molecular weight of less than 7000;

wherein said charged oligosaccharide chains have a weight average molecular weight of less than 10,000; and

wherein said oligopeptides comprise from about 3 to 30 amino acid residues and a sequence which interact with protein receptors on the surface of endothelial cells.

17. The method of claim 16 wherein said polymer is selected from the group consisting of poly(vinyl amine), poly(vinyl alcohol), and poly(lysine).
18. The method of claim 16 wherein said polymer is simultaneously reacted with said alkanal or said alkanoyl and said hydrophilic compound.
19. The method of claim 16 wherein the molar feed ratio of said hydrophilic compound to said alkanal or said alkanoyl is from 3:1 to 1:6.
20. The method of claim 16 further comprising the step of capping any unreacted amine groups.

IX. EVIDENCE APPENDIX

None

X. RELATED PROCEEDINGS APPENDIX

None